Egyptian Journal of Ear, Nose, Throat and Allied Sciences (2012) **13**, 99–101

Egyptian Society of Ear, Nose, Throat and Allied Sciences

Egyptian Journal of Ear, Nose, Throat and Allied Sciences

www.ejentas.com

CASE REPORT

Pleomorphic adenoma of the lateral nasal wall: A case report and review

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Received 9 March 2012; accepted 16 April 2012
Available online 29 May 2012

KEYWORDS

Lateral nasal wall;
Pleomorphic adenoma;
Lateral rhinotomy

Abstract Pleomorphic adenomas arising in the nasal cavity are extremely uncommon, despite the large numbers of minor mucous and serous glands in the region. We present a rare case of a pleomorphic adenoma arising from the lateral nasal wall. A 67-year-old Chinese woman complained of right nasal obstruction for 6 months. Flexible nasal endoscopy showed a prominent swelling which was in continuity with the anterior part of the right inferior turbinate. Computed tomography revealed a well-defined, soft tissue dense lesion in the right anterior nasal cavity. The patient underwent a formal surgery to obtain definite diagnosis via a lateral rhinotomy incision. Intra-operatively, a soft mass was seen arising from the lateral nasal wall and the final histology confirmed a pleomorphic adenoma with a predominant stromal component. The main treatment modality is surgical resection with histological clear margins. Good exposure is necessary to ensure complete excision of the tumour, more so when its cellular pattern shows stromal predominance. In our case, the patient demonstrated satisfactory cosmetic results with no evidence of recurrence.

1. Introduction

Pleomorphic adenomas are the most common neoplasms of the salivary gland, occurring mainly in the parotid, submandibular and sublingual glands. These neoplasms affect females more than males and are commonly seen in the third to sixth decades of life. While pleomorphic adenomas are highly uncommon in the nasal cavity, approximately 80% of nasal pleomorphic adenomas are detected in the nasal septum, while the remaining 20% are found in the lateral wall or turbinate despite the fact that a significant proportion of mucous and serous glands is confined to the lateral nasal wall [1].

The reason for the predilection of nasal pleomorphic adenomas to lateral nasal wall has been postulated by some authors. Stevenson suggested that remnants of the vomeronasal organ, an epithelium-lined duct in the cartilaginous nasal septum degenerated in early foetus, could be the reason for the appearance of these tumours in the nasal turbinate [2]. Whereas, Ersner and Saltzman postulated that the precursors

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Peer review under responsibility of Egyptian Society of Ear, Nose, Throat and Allied Sciences.

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http://dx.doi.org/10.1016/j.ejenta.2012.04.003

of the septal pleomorphic adenomas are ectopic embryonic epithelialised cells on the nasal septum mucosa, found during the migration of the nasal buds [3]. We present a rare case of a pleomorphic adenoma arising from the lateral nasal wall.

2. Case report

A 67-year-old Chinese woman was referred to the otolaryngology department for an incidental finding of a soft lobulated mass in the right nasal cavity noted on computed tomography (CT) of her neck. Further questioning revealed a history of right nasal obstruction for 6 months. She had no other otolaryngological symptoms. Besides well-controlled hypertension and a left hemithyroidectomy for benign Hurthle cell adenoma, she was otherwise well. Flexible nasal endoscopy showed a prominent swelling which was in continuity with the anterior part of the right inferior turbinate, lined by normal looking mucosa and skin. There were no palpable cervical lymph nodes and no other abnormalities in the rest of the ear, nose and throat examination.

The CT scan (Fig. 1) confirmed a well-defined, soft tissue dense, smooth margined lesion of size $2.7 \times 2.4 \times 1.5$ cm in the right anterior nasal cavity, abutting the anterior part of the right inferior turbinate medially, cartilaginous part of the nasal septum and anterolateral wall of the right nasal cavity without eroding them. The anterior nasal septum was deviated towards the left. Initial biopsy was unhelpful as it revealed inferior turbinate type tissue with no pathological findings.

However, in view of this aberrant mass on the CT scan, the patient underwent a formal surgery to obtain definite diagnosis. This was done via a lateral rhinotomy incision. Intra-operatively, a soft 2 cm mass was seen in the lateral wall of the right pyriform aperture, displacing the maxilla anteriorly, extending to the nasal cavity above the inferior turbinate and inferior to the upper lateral cartilage (Fig. 2).

The final histology showed a pleomorphic adenoma with a lobulated, biphasic morphology. The stromal component was predominant and appeared myxochondroid with no evidence of malignancy (Fig. 3). The post-operative recovery was uneventful and she was discharged well.

Figure 1 Axial CT shows the soft tissue mass (white arrow) in the right nasal cavity.

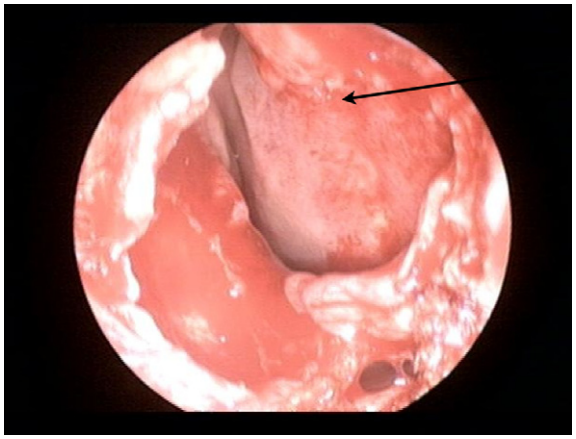

Figure 2 View shows the tumour (black arrow) arising from the lateral nasal wall.

3. Discussion

Pleomorphic adenomas arising in the nasal cavity are extremely rare, despite the large numbers of minor mucous and serous glands in the region [4]. Patients often seek medical attention because of nasal obstruction, epistaxis or the presence of a nasal mass.

Histologically, pleomorphic adenomas of the nasal cavity differ in certain characteristics. The nasal cavity tumours have greater cellularity and contain more epithelial components than the chondroid, myxoid and collagenous stromal components that are seen in pleomorphic adenomas of the parotid gland. The relatively low rate of recurrence is attributed to diminished amount of myxoid stroma of intranasal tumours (7.5%) [4].

Motoori et al. [5] reported a case of recurrence in which the nasal pleomorphic adenoma had a cellular pattern with many areas of myxoid stromal predominance. It is postulated that the myxoid stroma could easily be spilled into the surgical field, providing a focus for recurrence [4]. Interestingly, the pleomorphic adenoma in this case has stromal predominance and resembles a typical adenoma of the parotid gland more closely than one of the nasal cavity.

The main treatment modality is complete surgical resection with histological clear margins. Recent literature has advocated the effectiveness of conservative excision via an intranasal endoscopic approach in eliminating disease with no recurrence on follow up [6,7]. However, histologically the pleomorphic adenoma in these cases showed a predominance of epithelial rather than stromal elements.

The surgical approach should depend on the size, location and extension of the tumour. In this case, the lateral rhinotomy method was chosen because the nasal tumour was very anterior, displacing the maxilla and abutting the inferior turbinate medially. The concern was that the anterior location of the nasal tumour would not have allowed adequate access via an endoscopic approach for complete resection.

It is a well known fact that there is always risk of recurrence, regardless of where the tumour arises from. The recurrence rate of pleomorphic adenoma depends almost on the sufficiency of the initial excision. Surgery for recurrent tumours often does not produce desirable results [8]. Hence, good exposure is necessary to ensure complete excision of

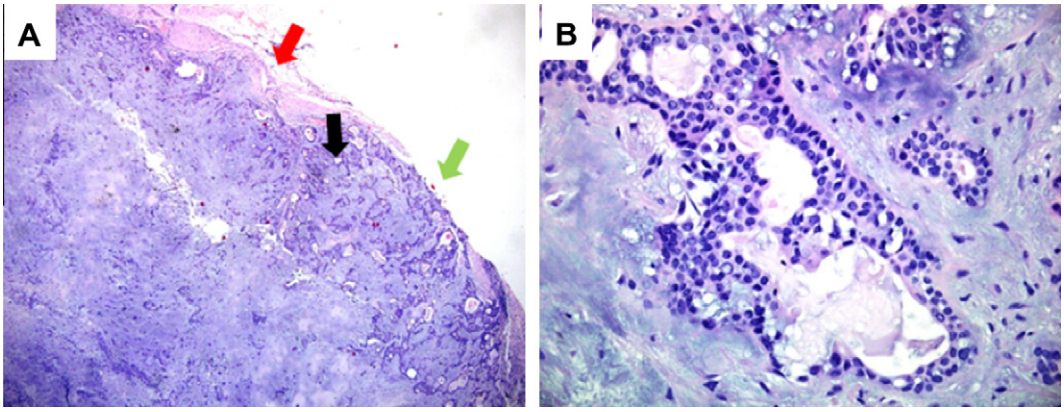

Figure 3 Representative images of pleomorphic adenoma. (A) Low-power view of the tumour shows a circumscribed tumour covered by a fibrous capsule (red arrow), which is deficient in focal area (green arrow). The tumour shows a predominant stromal component comprising a myxochondroid stroma (Haematoxylin and Eosin (H&E), original magnification ×100). (B) Epithelial component composed of tubuloductal structures lined by an inner cuboidal epithelial cells and an outer myoepithelial cell layer. (H&E, original magnification ×200).

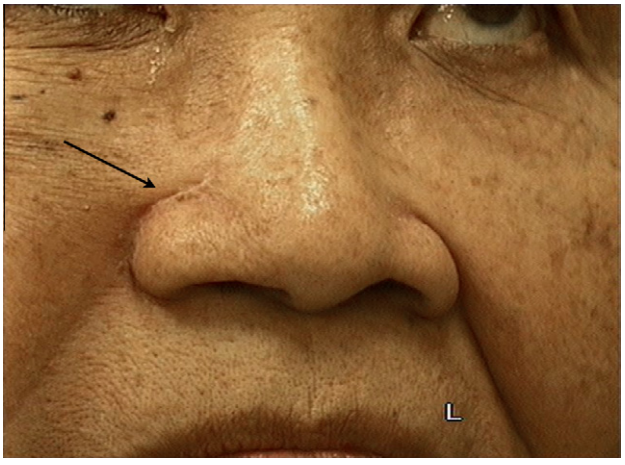

Figure 4 Post-operative picture shows a well-healed lateral rhinotomy scar (black arrow).

the tumour, more so when its cellular pattern shows stromal predominance.

Given the rarity of the intranasal pleomorphic adenoma and heterogeneity of its behaviour, no standard treatment algorithm has been established. Nevertheless, post-operative follow up examination is mandatory in view of its potential for recurrence. In our case, the patient demonstrated satisfactory cosmetic results with no evidence of recurrent disease during subsequent follow up visits (Fig. 4).

4. Conclusion

Pleomorphic adenomas of the nasal cavity are exceedingly uncommon. Histologically, recurrence is most associated with the myxoid stromal pattern and the treatment of choice is local excision with negative tumour borders. The external approach via lateral rhinotomy should not be a deterrent as good cosmetic outcome can be achieved.

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